

The fruit of *Olea europaea* L. as a dietary source of bioactive compounds

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Background and objectives:

The fruit of *Olea europaea* L. is a typical food of Mediterranean diet with a high content of monosaturated fatty acid, followed by minor components such as tocopherols, sterols, triterpens and phenolic compounds. Among them, polyphenols stand out due to their antioxidant, anti-inflammatory, cardioprotective and cancer-preventive activities. Due to the mentioned properties, table olives could be considered to be a functional food and for this reason, the concentration of polyphenols and its bioavailability have been analyzed by HPLC-MS/MS, and the effect on blood pressure was evaluated.

Methodology:

A homogenous suspension, prepared from destoned Arbequina table at a dose equivalent to ingestion of 30 olives taken by a 70 kg-human, was analyzed and quantified using HPLC-MS/MS previous extraction with methanol-ethanol (1:1,v/v). The prepared olive suspension was orally administered to overnight fasted male Sprague-Dawley rats. Blood was taken from saphenous vein and subsequently analyzed. The olive suspension was also given to spontaneously hypertensive and Wistar Kyoto rats and the acute blood pressure was measured by tail-cuff method.

Results and conclusions:

The analysis of Arbequina olives indicated that hydroxytyrosol, tyrosol and luteolin are the most abundant phenolic compounds. Hydroxytyrosol was found in the rat plasma in different times after oral intake of olive suspension. Moreover, the ingestion of olives suspension did not increase acute blood pressure in hypertensive and normotensive rats. The study extends the knowledge that the olives could be an important source of bioactive polyphenolic compounds and in the future might be considered as a functional food.

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